

PROTEUS:
A NATURAL HISTORY OF
MALARIAL POISONING, AGUES, ETC.
WITH OBSERVATIONS ON
THEIR PREVENTION AND CURE.
BY THE
REV. RICHARD BINGHAM, M.A.
WITH AN INTRODUCTION BY:
HORACE DOBELL, M.D.



Edgar March Crookshank

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1925

Edgar March Crookshank.

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PROTEUS:

A NATURAL HISTORY OF
MALARIAL POISONING, AGUES,
AND THEIR PROTEAN VESTIGES,
WITH OBSERVATIONS ON
THEIR PREVENTION AND CURE.

Being the Experiences of a Long Residence in an Ague District.

BY THE
REV. RICHARD BINGHAM, M.A.,
LATE RECTOR OF QUEENBOROUGH.

WITH
AN INTRODUCTION

BY
HORACE DOBELL, M.D.,
ETC., ETC.

CONSULTING PHYSICIAN TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST,
LATE SENIOR PHYSICIAN TO THE HOSPITAL, ETC., ETC.

Non Hydra secto corpore firmior
Vinci dolentem crevit in Herculem,
Monstrumve summisère Colchi
Majus, Echioniæve Thebæ!

LONDON:
WERTHEIMER, LEA AND CO.,
CIRCUS PLACE, LONDON WALL.

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1879.

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INTRODUCTION

BY

HORACE DOBELL, M.D., ETC., ETC.,

*Consulting Physician to the Royal Hospital for Diseases of the Chest,
Late Senior Physician to the Hospital.*

I HAVE acceded with much pleasure to a request from the Author that I should write a short introduction to the following *brochure* on "Malarial Poisoning, Agues, and their Protean Vestiges;" first, because I think that this graphic record of his large experience may be of infinite service to the inhabitants of malarious districts by impressing them with the vital importance of the poisonous influences to which they are exposed—especially by showing that their numerous and anomalous derangements of health may be produced by the ague poison, although not manifesting the ordinary symptoms of a fit of ague. Secondly, because I think this little work may be of great use to those medical practitioners who have never resided in a malarious district, and who have not been thrown much in the way of aguish complaints. After reading Mr. Bingham's striking story they cannot fail to be impressed

with the importance of being always on the alert to inquire after the possibility of malarious poisoning in patients who present puzzling and anomalous symptoms. (See pp. 38 to 47.)

Few things of the kind have struck me more in my long experience as a consulting physician than the wide prevalence of the malarious diathesis, and the number of cases that come before me in which all previous advice and treatment had failed, simply because it had not been directed to this point.

In the present day, when travelling is so universal among all classes, the chances of malarial poisoning are immensely increased, at the same time that it becomes more and more difficult to ascertain how and where it was acquired. Travellers are very apt both to ignore and to forget the exposure to endemic influences during residences of limited duration in unhealthy districts, and both patients and their doctors are often unaware or forgetful of the fact that Abnormal Physiological States* thus produced may remain for an indefinite number of years, if not eradicated by judicious treatment, and that while they exist they modify and colour all diseases.

It would not be fair for me to occupy the pages of "Proteus," as this work is so aptly entitled by its

* For further observations on "Abnormal Physiological States," see the Sixth Edition of my work "On Diet and Regimen in Sickness and Health, and on the Interdependence and Prevention of Diseases and the Diminution of their Fatality," published by Lewis, 136, Gower Street.

learned author, with records of my own cases, otherwise I could amply and strikingly illustrate Mr. Bingham's observations by quotations from my note books.

Mr. Bingham had himself been a severe sufferer from malarial poisoning, and although, when he first consulted me, he had long quitted the old locality, he continued to present a marked example of the inroads made by ague upon a constitution naturally sound and strong.

He had witnessed a remarkable assemblage and variety of the forms and fashions of ague during his long residence in the Isle of Sheppey, and he brought to bear upon the subject a singularly observant, shrewd, and practical mind. He was an exception to the rule, that patients are unwilling, even in the face of unquestionable evidence, to admit the malarial origin of their ailments. He was most anxious that the public should benefit by his own unhappy experiences. No one can read the following pages without being impressed with the keen discrimination, the freedom from prejudice, and the strong common sense which characterise all the author's observations, and give a peculiar value and interest to his work.

In conclusion, I wish to say that I have not attempted to interfere in any way with the author's statements or remarks, I have not even modified his medical phraseology, and, therefore, I do not take upon myself any further responsibility than that of recommending his work to the serious consideration of both

medical and non-medical readers as the truthful observations of a country clergyman, who carefully watched and studied the endemic complaints by which he was surrounded, and consecrated the knowledge thus acquired to the benefit of such of his parishioners as were too poor to avail themselves of medical advice.

But the record of the knowledge which Mr. Bingham acquired in the Island of Sheppey may prove of infinite service to all who have been subjected to malarial poisoning, whether in this country or in other parts of the world.

PROTEUS:

A NATURAL HISTORY OF MALARIAL POISONING, AGUES, AND THEIR PROTEAN VESTIGES.

CHAPTER I.

THE CAUSES OF MALARIAL POISONING, AGUES, ETC.

THE natural causes of Malarial Poisoning and Agues, as they appear in Sheppey, are to be found in the geological structure of the Island, and in the untoward position of Queenborough, which, unhappily, is so situated that whichever way the wind blows, excepting, perhaps, the north-west, it sweeps over the place with ague on its wings.

Let me explain. Sheppey is an outlier of the tertiary beds on the south-eastern side of the London basin, where, by the estuaries of the Thames and Medway, it opens with a broad expanse into the German Ocean. The north-eastern side of this outlying mass is tilted up, and forms a cliff, rich in characteristic fossils, from Scrap's Gate, on the eastward of Sheerness, whence it slowly rises to the height of nearly 150 or 200 feet about the centre of the length, and so continues for

a couple of miles or more to Warden Point, after which it rapidly drops, and is quite lost within a mile of Shellness; thus the highest grounds are at Minster, Eastchurch, and Warden.

Towards the south, south-west, and west this immense mass of the London beds is gradually depressed and lost in the flats, or Sheppey Marshes, which are separated from the marshes of Milton, Iwade, and Hailstow by the Swale, a tideway which, from Shellness to Queenborough Point, properly so called, cuts off Sheppey from the mainland of northern Kent.

In the parishes of Minster and Eastchurch there are some patches of those sands which, as a rule, are found overlying the chalk or alternating with beds of plastic clay or brick-earth: and of the latter, especially in Eastchurch and Harty, there are large quantities and many elevated nodules, called *coterels* by the natives. These mamelons are evidently masses of plastic and brick-earth, which were thrown out and forced upwards at that period, whenever it was—perhaps the glacial era—when Great Britain was rent away from the mainland of France, and became insular rather than peninsular as before. Did the foreseeing government of God thus prepare the way for that immunity from invasion this country has for centuries enjoyed? However that may be, such a disruption could not have taken place, whether by the rising of the sub-Wealden dome or otherwise, without causing great disturbances in proximate localities for scores and scores of miles around; and accordingly a con-

vulsion was realised on the coasts of Kent similar to that—which, possibly at the same era, tore off Sicily from Italy—so elegantly described by Virgil* :—

Hæc loca, vi quondam et vastâ convulsa ruinâ
 (Tantùm ævi longinqua valet mutare vetustas)
 Dissiluisse ferunt : quum protinùs utraque tellus
 Una foret : venit medio vi pontus, et undis
 Hesperium Siculo latus abscidit, arvaque et urbes
 Litore diductas angusto interluit æstu.

It is probable that at the period of the abruption, and for centuries afterwards, the outer coast of Sheppey trended a mile or two further towards the north ; but in course of time the cliffs have been washed away by the inroads of the sea—a process still incessantly going on—while the balance has not been forgotten, and the mudlands on the inner side have been constrained to make compensation by becoming so slightly covered—for the most part only at the spring-tides—as to be capable of remunerative recovery by speculators in embankments. But here, also, is one grand source and primary cause of ague. These re-

* “Æneid” III., 414 *seqq.* Thus rendered by Warton :—

That realm of old, a ruin huge ! was rent
 In length of ages from the continent.
 With force convulsive burst the isle away ;
 Through the dread opening broke the thund’ring sea :
 At once the thund’ring sea Sicilia tore,
 And sunder’d from the fair Hesperian shore ;
 And still the neighbouring coasts and towns divides
 With scanty channels and contracted tides.

covered mudlands, which extend for miles on each side of the Swale, are fraught with decomposed vegetable matter; while the fields and pastures they have given birth to are not divided by wholesome hedgerows of living quickset, hazel, or hornbeam—scarcely is there a willow or a pollard to be seen—but by innumerable ditches, broad and deep, which are always more or less full of stagnant water. These ditches, being only just above the level of low water mark, their contents cannot escape, except in small quantities; and, indeed, it is not intended that they should empty themselves at all, for they are the only means of separating the flocks of respective occupiers. However, in dry seasons, these ditches do lose immensely by evaporation, and are sometimes so drained to the very dregs that the concentrated miasma arising from them becomes very noxious in proportion as the effluvia are more condensed.

Then, again, we have the saltings—those mudlands covered over with rough grasses and rushes, and flooded periodically by the spring tides. These are, during the neaps, very fruitful sources of malaria, and must be admirable beds for the development and growth of the *gemiasma*; if indeed it be true that such a cryptogamic as *the ague-plant* does exist, as the late Charles Dickens supposed. His paper on the subject is so interesting, and withal so appropriate to the present topic, that I think I need make no apology for introducing it here *in extenso*, from the number of “All the Year Round” for June 6, 1868:—

“That of fen places comes malaria, and that of malaria comes ague, the world has long known. It is only very lately that science has made the great step of discovering why this is. In the early ages men attributed the effects of malaria to the anger of the gods. The poetic fancy of the Greek idealised our marsh demon in the Python killed by Apollo, and the many-headed Hydra of the Lernan swamp destroyed by Hercules. Varro and others of his time, watching the effects of malaria in and around Rome (as one may do to this day), ascribed marsh fevers to the presence, in the air, of ‘innumerable hordes of imperceptible insects which, leaving the marshes, enter the body in respiration.’ Wiser men than they have been much further from the truth.

“When I practised medicine in the fens, I was struck by the fact—as doubtless many others have been—that whenever any of the damp black earth is turned up, whether in cutting ‘turfs’ or dykes, or otherwise left exposed to dry in the sun, it becomes covered with a distinct white or greyish film. On asking what this was, I was told that it was the efflorescence of the salts of the soil. Examination under the microscope satisfied me that it was not, but being at the time a young and unpractised microscopist, I did not guess what it was, further than that it consisted of a congeries of simple nucleated cells. In January, 1866, Dr. Salisbury, an American physician of note, published, in the ‘American Journal of Science,’ a most interesting detail of elaborate ex-

periments upon this subject; thereby at last the real nature of malaria seems to have been ascertained.

“The fertile source of desolation and disease consists of incalculable myriads of microscopic cells suspended in the atmosphere over waste, marshy, and fen districts. They are minute oblong cells, single or aggregate, and have a distinct nucleus with a very clear interspace, apparently empty, between it and the cell wall. They are of an algoid type, strongly resembling the palmella, and are consequently among the lowest organisms known to us. Sometimes several of these cells or spores are contained in an outer cell wall or delicate investing membrane to form a plant. Of these ‘ague-plants’ is formed that film on the soil to which I have alluded; and their spores or minute seeds—germinating cells—rise into the air, carrying pestilence with them. These spores may, I believe, always be found in the expectoration of people who have really been seized with ague.

“There are several species of the ‘ague-plant,’ which have been called—from the Greek for earth, and the word miasma—Gemiasma. There are a whiter and a yellowish-green variety, occurring usually on a non-calcareous soil, and producing agues of but slight intensity. To the best of my knowledge the white is the only variety with which we are now afflicted in England; what other species the fen men of old time, who had but an aguish time of it, suffered from when ‘slimy things did crawl with legs’ on the quaking morass, when the coot, and bittern, and plaintive

sedge-bird hovered around Whittlesea Mere, and patches of primeval forest still stood on the steaming ground, nobody knows, and nobody ever will know. There are also a red, a green, and a lead-coloured variety, and one singular species, the '*Gemiasma protuberans*,' which has larger spores than the others, and consists of groups of jelly-like protuberances. These latter kinds habitually occur on rich calcareous soils, and produce fevers of a dangerous and congestive character. These cells with their spores produce visible incrustations or moulds upon the surface of recently exposed marsh. The red species causes the soil to appear as if sprinkled with fine brick-dust; while, of the whiter, a familiar instance occurs in the mildewed appearance of freshly-disturbed fen earth.

“The danger from these growths is greatest in a hot dry season following a wet one. The wetter the season and the hotter, the better is it for malaria, the worse for man. In India, it is during the extreme heat, immediately after the rains have ceased, that it is most deadly. At this time the poison is so intense in some districts that whole tracts of land are deserted. In Bishop Heber's Narrative of a Journey through the Upper Provinces of India, speaking of the vast forests of the Terrai, he says—‘Not the monkey only, but everything that has the breath of life, instinctively deserts them, from the beginning of April to the end of October. The tigers go up to the hills, and the antelopes and wild hogs make incursions into the plain; and those persons, such as dáik bearers and

military officers, who are obliged to traverse the forest in the intervening months, agree that not so much as a bird can be heard or seen in all the frightful solitude.' He also speaks of having noticed a dense white mist brooding in the hollows of the jungle, which the natives call 'essence of owl.' This fact I shall advert to again. An example, showing that decaying vegetation has nothing whatever to do with the production of the fungoid marsh poison, but only the alternation of moisture and heat acting usually on a peculiar soil, I take from a paper by Dr. Ferguson, 'On the Nature and History of the Marsh Poison,' in the *Edinburgh Philosophical Transactions*:—'In 1809, several regiments of our army in Spain took up an encampment in a hilly ravine, which had lately been a watercourse. Pools of water still remained here and there among the rocks, so pure that the soldiers were anxious to bivouac near them for the sake of using the water. Several of the men were seized with violent intermittent fever before they could move from the bivouac the next morning. After the battle of Talavera, the English army retreated along the course of the Guadiana river, into the plains of the Estramadura. The country was so dry for want of rain, that the Guadiana itself, and all the smaller streams had in fact ceased to be streams, and were no more than lines of detached pools in the courses that had formerly been rivers. The troops there suffered from intermittent fevers of such malignity that the enemy, and all Europe believed that the British host was exterminated.'

“In England, we know comparatively little of this wide-spread pestilence, which desolates so considerable a part of the earth’s surface. Formerly, agues were common and dangerous even here. Both James the First and Cromwell died of agues *caught in London*, and it is only within a few years past that our fen counties became as healthy as they are now.

“Our marsh demon is the veritable ‘pestilence that walketh in darkness.’ It seems almost certain that the poison, the spore of the ‘ague-plant,’ only arises into the atmosphere with the evening dews. Microscopically tested the day air is free from these organisms. Two labourers, A and B, shall traverse the same fen district, both in an equal state of health: but A shall go through it in the day, and B in the night when the mist is rising. A returns home, eats his pork and onion with a relish, and smokes his post-prandial pipe with much contentment. But malaria seizes on B, makes his throat sore, and causes his limbs to ache. He yawns and shivers, and comes home wretched and ill.

“All fenny districts that are not intensely malarial, are comparatively harmless in the day time, and hurtful only when the innumerable spores of the ‘ague-plants,’ that cling throughout the day to the soil, rise at night, and are suspended in the cold vapours which hover over the surface of such regions. But in all malarious districts, to sleep at night in the open air is almost to ensure an attack of the disease. It is a fact notorious to seamen that when off a malarious coast, the sailors

can go on shore during the day with impunity, but not at night. Here is an instance recorded by Dr. Lind, an old navy surgeon. In 1766, H.M.S. *Phoenix* was returning from the coast of Guinea. Both officers and men were perfectly healthy until they touched at the Island of St. Thomas. Nearly all went on shore, but sixteen of the crew remained several nights on the island. Every one of the sixteen was seized by the disorder, and thirteen of them died. The rest of the crew, two hundred and eighty in number, who went on shore at intervals, but who were never there during the night, entirely escaped sickness. The reapers in the Campo Morto—ominously, but aptly, named part of the Maremma—are allowed to sleep for two hours at noon. This they do without danger. But it is quite another thing when the evening dews are falling on the earth that forms their bed. It is then that the poisonous mist wraps them in its deadly winding-sheet. Those who travel through the Pontine marshes, ought always to do so by day if they have a wholesome fear of the marsh demon before their eyes. ‘In such countries,’ as Sir Thomas Watson racily says, “‘Early to bed” is always a good and wholesome rule, but the other half of the proverb, “Early to rise,” becomes a most unsafe precept,’ that is, if early rising implies leaving the house early. People may (and do) become seasoned to malaria; become so inured to it that it no longer produces its specific effects upon them; but they pay dearly for their seasoning in the degenerated physique and dull incapable mind that usually cha-

racterises the inhabitant of a malarious district. In the fens of Cambridgeshire, immense quantities of alcohol and opium are taken by the inhabitants to correct the depressing tendency of the atmosphere.

“In different parts of the world these cryptogamic spores rise in the night mists to different but definite heights. In Ohio, Dr. Salisbury says they seldom rise above from thirty-five to sixty-five feet above the low levels. In England they do not rise more than from fifteen to thirty feet. The spores and cells are found throughout these vapours, but do not extend above them; and they occur in the greatest abundance in their upper strata. Three men, dwellers in aguish places, shall live at different elevations; one, down in the marsh, on the low level; one, on the hill-side, thirty or forty feet above; the third, fifty feet higher than either. Some autumn evening all three issue out and sit at the doors of their respective huts. The mist rises from the marsh. In due time the one living at the lowest level is taken very ill, the one living next above him is taken very much worse, while the third, whose house is highest, suffers nothing, until in an evil moment he goes down by night to look after his neighbours, and then he too is laid by the heels.

“It has long been known that a certain elevation gives a sure immunity from intermittents; and in the neighbourhood of the Pontine marshes we see the villages perched curiously on the intervening hills. Near the city of Lancaster, U.S., resided a certain Mr. and Mrs. C. Their house was on the edge of a low

terrace and elevated about thirty feet from the marshy soil around it, there called the 'prairie bottom.' About the middle of August, workmen were excavating in this marshy soil. The workmen soon began to fall with the ague; at last nearly all were attacked. On September 1, Mr. C. was seized with it, and on September 3, Mrs. C. likewise. The children all remained quite well. On examining the excavation, the recently disturbed soil was found covered with 'ague-plants.' Mr. C. stated that he and his wife slept in a room on the lower floor, usually with their windows open, while their children, seven in number, slept on the second floor over their own room. He also stated that early every morning he noticed that 'the fog' from the excavation ground extended towards the house, rose about two-thirds of the way up the first story, and freely entered the window of his room, but he had never noticed it to rise as high as the room where his children slept. 'The fog' dissipated very early in the morning before the children were up. He had lived there forty years and none of his family had had ague before. This shows how precisely the height the poisonous mist rises may sometimes be estimated.

"Intermittent fever or ague has actually been intentionally produced in the bodies of men by causing them to inhale the spores of these algæ, unknown to themselves; the men experimented on were exposed to no possible source of ague, but the one devised specially for them.

"Dr. Salisbury tells how he unintentionally victim-

ised one of his friends. After exhibiting a large piece of soil covered with the plants of the *gemiasma* to his class during lecture, he placed it under a table in the office of his friend Dr. House. It was loosely covered with a newspaper and forgotten. In a few days the doctor suffered from a well-marked paroxysm of ague.

“It has long been known that malaria is movable by the wind; and this is quite in accordance with what we now know of its nature. The spores of the ‘ague-plant,’ having risen and become entangled in the mist, spores, mist and all are blown along together far, perhaps, from the place where they originated. This fact admits of considerable practical application, especially in tropical countries, where the wind usually blows for a long time from the same quarter. This, too, explains the apparent exceptions to the rule, that malaria never rises above the ground. It is easy to see how a volume of fog or vapour, laden with its deadly burden of poison cells may roll up and hang suspended on the side of a hill, towards which a wind blows from or across an adjacent marsh. Instances, indeed, have occurred where the poisonous vapour has been blown over a hill, and deposited on the other side of it, to the unmitigated disgust of the inhabitants, who fondly imagined themselves secure from the visits of their pestilent neighbour. Lancisi tells how thirty ladies and gentlemen sailed to Ostia, at the Tiber’s mouth, on a mediæval pic-nic. All went gloriously, as a pic-nic should, until suddenly the breeze shifted to

the south, and began to blow over a marshy tract of land to windward of them, at a time when they were running very close in shore. Twenty-nine of the thirty were at once taken down with ague. The one man who escaped had to finish his part in the day's pleasure with the sole charge of the navigation of a boat-load of fever patients.

“The poison of malaria cannot extend its influence over even a narrow surface of water. I have already given one instance in the quotation from Dr. Lind. Here is another, from Sir Gilbert Blane. Speaking of the disastrous Walcheren expedition, when intermittents decimated the troops on shore, he says, ‘Not only the crews of the ships in Flushing roads were entirely free from the endemic, but also the guard-ships which were stationed in the narrow channel between Walcheren and Beveland. The width of this channel is about six thousand feet, yet, though some of the ships lay much nearer to one shore than to the other, there was no instance of any of the men or officers being taken ill with the same disorder as that with which the troops were affected.’ It is very possible, nay, probable, that the vapour and its poisonous contents are absorbed by the water over which it passes; and if it be so, we shall need no longer to seek an explanation of the fact that water in some places and at various times apparently induces the fever when drunk. Merely the drawing of a moat around a house in a poisonous locality, is often an effectual safeguard.

“Another remarkable peculiarity of the marsh poison is its attraction towards, or adherence to, the foliage of large leafy trees. A belt of trees round a house in a malarious district affords considerable protection ; but it is dangerous in such places to go under the trees : much more dangerous to sleep under them. A friend of mine, who lately owned a large plantation in Berbice, tells me that New Amsterdam, in that district, is situated to the leeward of a vast and swampy forest. The town lies right in the track of a trade wind that blows over it through the forest, leaving with it the putrid scent of the marsh. Intermittent is unknown. It is, however, an understood fact that to go into the forest after nightfall, would be almost inevitably fatal ; also, that to cut down the trees would be to compel the evacuation of the town. . . .

“The fact that the spores of the *gemiasma* produce ague, is not by any means the only instance in which disease has been traced to a fungoid origin. At a recent meeting of the Pathological Society (March 3rd) Mr. Simon stated, on behalf of Dr. Hallier, of Jena, that he had probably discovered the origin of typhus, small-pox, and four other diseases, in peculiar and definite fungi developed in the blood. It was Dr. Hallier, also, who last year supposed the proximate cause of cholera to be of this nature, and also, with all reason and demonstration of experiment to confirm his opinion, attributed it to the *Arocystis occulta*, a fungus analogous to that producing ‘the blight’ in rice. Dr. Flint finds that a fungus peculiar to straw

will induce a genuine attack of the measles, though he does not at present insist that the straw fungus is the only source of that complaint. Hay asthma is caused, I believe, invariably by the inhalation of the spores of a fungus produced during the fermentation of hay in the process of drying. Dr. Salisbury has a paper in the current number of the 'American Journal of Science,' on the fungoid origin of two other important diseases. The pollen and volatile principles of many actively flowering plants produce a sensible and sometimes very severe impression, even where insensibly inhaled. In passing through a field of flowering hops, of lettuce, of poppies, of spotted hemlock, of tobacco, or stramonium, or near a plant of rhus vernix, symptoms peculiar to the action of each plant are soon produced."

I do not presume to say whether Dr. Salisbury's opinions are correct or not, but whatever be the actual origin of intermittent, that is ague with or without fever, acute or chronic—whether it is due to effluvia from decaying vegetable matter, or, as we have just been reading, to the germination of microscopic spores from a plant abounding more or less as it finds a soil and atmospheric circumstances favourable to its growth,—most undoubtedly the saltings are prolific of the evil, left as they are by the ebbing tides strewn over with slime and sea-weed and other vegetable rubbish, and exposed for hours to the sun between tides, and for several days in succession during the neaps.

One of these ague beds, some three or four acres in

extent, lies between Queenborough Creek and the embankments of Russingdon farm. Unfortunately for the Vicarage, this spot is situated immediately opposite the front of the house, and within a stone's throw of the door and windows, through which, if opened, must rush the breeze fraught with the miasmata, especially if the wind is from the southward and westward, and the stronger the breeze the worse the evil, and the brighter the sunshine, the more deadly the arrow that slays you at noon !

When I was resident at Queenborough, I took a good deal of trouble about the drains of my house, keeping them in repair and properly trapped. But no care availed; no prophylactic measures could keep "Old Jack," as the natives call it, out of a dwelling whose untoward situation, as described, had much to do with the constant suffering of myself and other members of my family from distressing attacks of ague, or some protean form of malarious intermittent. Neither am I prejudiced in this remark, for I often observed that among the inhabitants themselves ague cases were much more frequent in houses on the southern side of the street, as well as in tenements at the south-western region of the town—their back doors and windows opening at once upon the Creek, by which alone they were separated from the saltings I have described. The houses on the north side of the street, as a rule, were far more healthy, or, I should rather say, were less liable to ague, the houses on the southern side being a kind of wall for the protection of the north-

side dwellings. But this fact did not benefit me and mine; for, although my house stood on the north side of the street, it was immediately opposite the wide opening for the Quay, with nothing between it and the marsh, so we were sure to catch a full allowance of the ague effluvia, or, as Dr. Salisbury would say, of the spores of the gemiasma.

There are many similar patches of saltings on the south side of Sheppey; but it is chiefly to the south-westward and westward that they are extensive, especially on the southern side of the Medway, all along for twelve or fourteen miles from Queenborough Point over to Hailstow and Rainham Marshes up to Gillingham. From the untoward position of Queenborough, it is always exposed during southwesterly and westerly winds, to the full benefit of the effluvia from these ague beds. Providence must not be blamed for this. The fault lies with our forefathers who chose for the residence of human beings a spot which Nature seems to have designed for mussels, cockles, clamps, oysters, and crabs—I mean as a home. How came this spot to be occupied?

I will explain.—As long ago as the times of the ancient Britons, Saxons, and Danes, Queenborough rose as an island of low elevation, only three or four feet above high water mark at spring tides, and was well chosen in the days of bows and cross-bows, as the site for Sheppey Castle, one of the defences of the estuary of the Medway in those historic days. This little fortress could be approached only by a narrow causeway from Barrow's

Gate across the mud-banks at low water time. It was at that era so impregnable that the Danes, even when they held Minster and the high grounds westward, as far as Telegraph Hill, could never get possession of Sheppey Castle, or drive out the sturdy fishermen from their cock-lofts, which then formed the town of Cyningsburgh, a little further on—their humble dwellings being built on piles, so that unusually high tides might pass under their cabins and leave them unimpaired.

The reader will bear in mind that all this was ages before the embankments, which during the last two centuries became so complete. But oh! to think of the ague then! What must it have been before bark and quinine were known? I have been told that there were periods, long since the Charter, when Queenborough freemen rejoiced in buckets full of port wine—the palmy days, I presume, of Parliamentary franchise, and the undoubted right, of course, of true Britons to make the best of their possessions. But whether that be truth or scandal, it is clear that in those primeval times, the inhabitants of the cock-lofts were as ignorant of old port, as they were innocent of electioneering squibs, and uncontaminated by Parliamentary misdoings, which since the Reform are of course unknown, we are now-a-days so pure!

But enough! I had better mind my P's and Q's, and returning to my real subject, explain a little further what I have termed the untoward position of Queenborough itself.

Whichever way the wind blows, and it blows almost incessantly, the Philistines are on Samson,—the marsh miasma is upon the town, with perhaps the exception of the nor'west wind, and north. For if the breeze is from the north-eastward the place comes in for the full benefit of the effluvia from the manifold fleets and ditches in the marsh, between it and Sheerness, and all along between Sheerness, Scrap's Gate, and Half-way Houses; if from the eastward and south-eastward, down come the miasmata of the marshes of Seysdown, Harty and the flats of Eastchurch; if from the southward, it is no better, for there is a broad band of marsh, ditches, and stagnant water, all along that side between Queenborough and the Swale, and for a mile or more in width on the other side of the tideway towards Milton and Swale. And, once more, if it be a south-westerly or westerly wind that blows, then the mischief is wafted to us from those ague-beds, the saltings, I have already described. If those regions could be drained, it would, haply, be better; and drained they would be, if the speculation would pay. *Exoriare aliquis!* Oh that a local Peabody would arise, and leave a good round sum for the purpose!

I have been told that the high wall which encloses the dockyard at Sheerness on all sides but the sea-side has the effect of keeping out the marsh miasma, though, perhaps, not quite high enough to do so effectually when the atmosphere is greatly condensed, and the miasma accordingly floats higher. For when the atmosphere is light, as during heavy rains, it probably

does not rise more than three or four feet above the ground; and there are periods when a tall man might walk upright through the marsh with impunity, while a child, or a person lying down, on the self-same spot, would probably suffer.

Apropos of this, I once heard of a gentleman, who walked across certain meadows at Worthing, during dew-fall, having a little boy at his side; the man, whose mouth was above the level of the miasma, took no harm, but the child caught a severe ague. At Queenborough, I often found the best means of immunity was to keep at home, which my parochial duties of course rendered impossible; but it is a fact that the only member of my household that suffered but slightly from ague was one who, from domestic causes, was almost constantly within doors.*

Perhaps, if it were possible to protect three sides of Queenborough by a lofty wall, the enemy might be kept outside, and such experiments have been successfully tried. We have read in history how, centuries ago, Girgenti, the Acragas of the Greeks, and Agrigentum of the Romans, used to suffer from an epidemic ague. A well-known philosopher and phy-

* Here is illustration by good authority:—"It is likewise singular and worthy of notice that in many families the female servants were nearly exempted from a disease which very few male servants, especially labourers in the open air, escaped."—Good's "Study of Medicine," Vol. ii., p. 123, citing Sir Gilbert Blane's "Select Dissertations," p. 111, 8vo., London, 1822.

sician* observed that the mischief always came on the wings of the wind from certain quarters, and it occurred to him that if he could keep the wind from the town, he could also keep the malaria from the inhabitants. So, having influence with the Prince of Girgenti, he persuaded him to build a very high wall to windward of the city, and two-thirds round it. When next the usual wind blew, the epidemic did not appear, and was unknown in the place for centuries afterwards while the wall was kept up.†

It is certain that miasmata or ague-spores do float in the air at a moderate distance above the surface, are stopped by intervening obstacles, and act with double force at the spots of detention.

Two or three years ago, a gentleman resident at Sheerness‡ had a fit of longing for the country, like the old Roman, who, under the pressure of his *ennui* exclaimed so ardently, as Horace§ tells us,

“O rus, quando ego te aspiciam !”

* It was the famous Empedocles, who flourished in Sicily 444 years before the Christian era. See Dr. Horace Dobell's Essay “On the Class of Medical Literature most Needed at the Present Day,” pp. 36, 37. London, Wertheimer & Co., 1875.

† M. Brayer, in his work on “Constantinople,” reports that the wall still remains, and that Girgenti is free from pestilence. See Dobell, *Ibid.*

‡ Sheerness itself being situated immediately on the open sea, and exposed to the marsh miasma only on one side, is certainly less liable to ague in proportion to population than Queenborough and some other parts of Sheppey.

§ See “Satires,” Book ii. v. 60.

yearning as he did for the green fields ; so he removed, with his wife and family, and servants, to an excellent farm-house in the parish of Eastchurch—not in the village at the top of the hill, and yet far removed above the level of the marsh below. My good friend soon found that he had pitched his new tent in the very midst of the quadrilateral of the enemy, “*Old Jack*,” or *Proteus*, as I more politely call him, and more appropriately also, as I shall show by-and-bye. All was very well for a little time, but presently the whole family, including Paterfamilias himself, were harassed by ague in its severest forms, suffering incessantly for weeks. My worthy friend, notwithstanding his horror of the Confessional, was at last compelled to say, *Peccavi* ! and exclaiming—

“*Vitæ me redde priori*,”

was only too glad to get back again to Sheerness, and secure more ample supplies of ozone from the sea.

It is noteworthy that my friend’s residence was neither actually in the marshes of Eastchurch nor on the top of the hill, but on an intermediate elevation—the worst position of the three—just where the miasmata are caught by the rising ground, and consequently are accumulated. The double danger is explained in the quotation from Dickens on the gemiasma, at page 13 ; and it is remarkable that Dr. Good* alluded long ago to “the well-attested fact that in many places, whilst

* “Study of Medicine ; on *Anetus* or Internal Tent Fever,” Vol. ii., p. 123.

the inhabitants of the high grounds were harassed by this fever"—he is describing a peculiar phase of severe ague—"those of the subjacent valleys were not affected by it;" and he adds that "the people of Boston and the neighbouring villages in the midst of the fens, were in general healthy at a time when the fever was endemic in the more elevated parts of Lincolnshire."—The miasma was driven up on to the hills, where it hung in a state of condensation.

But I will not close this chapter without an act of justice in adding that the Isle of Sheppey, though harassed with ague, is not otherwise unhealthy. According to the last census, the proportion of old people is very great, and the death-rate under 18 in 1,000, which is wonderful, especially when we consider the habits of a large portion of the lowest class in Sheerness; and I think I ought to give insertion to an editorial leader in the "Sheerness Guardian" for Saturday, April 29th, 1871, which will speak for itself:—

"CENSUS FOR THE ISLE OF SHEPPEY.

"We publish in another column some interesting details of the recent census for the Isle of Sheppey. The facts are briefly these:—Population of Minster district, 15,537, being an increase of 149 since the census of 1861; in Trinity district, Sheerness, the number is 13,456, being an increase of 270 during ten years; the population of the town of Sheerness is 12,522, being an increase of 507 above the last census; and, if we add 193 as the quota for Westminster, we

get a total increased population of 700 souls. The Minster district returns, 7,938 males and 7,599 females, the former showing a decrease of 154 and the latter an increase of 303 during the past ten years. An analysis of the returns shows that Minster and Queenborough have 234 males and 231 females above sixty years of age, 144 males and 133 females above seventy years of age, and 34 males and 31 females above the age of eighty. Thus there are 412 males and 395 females in the parish of Minster (including Queenborough), who are above sixty years of age, making a total of 807 souls above three-score years old. It should be observed that in the gross return for Minster district, Queenborough is included, and also Sheerness barracks. Minster district, excluding Sheerness barracks, returns 14,035; Barracks, 741; Queenborough, 761. Political economists tell us that facts are stubborn things, and that one of the surest tests of the prosperity of a locality is its population. Cynics say that figures can prove anything, and withhold all confidence in such data. Ordinary mortals who have thought the matter over confess that the economists are right, and that our Legislature acts wisely in not allowing the old institution of the Roman Servius Tullius to collapse. The social world has its laws as unmistakable as the physical, and statisticians are quite right in founding conclusions on the results of successive decades. The position taken up by Malthus was, that the population increases only in so far as not kept down by prudence, or by poverty and disease.

Despite the pains and penalties Mr. John Stuart Mill would inflict upon a pauper population for tying the Gordian knot, the poor will follow nature's promptings, and bequeath to society their legacies in the shape of round half-dozens of olive branches. The Government, in its wisdom, has thought fit to discharge a great many men from our local establishments, and prudence, or poverty, has influenced the discharged to migrate elsewhere. Still the above figures show an actual increase of some 700 souls in Sheerness and Westminster during the past decade, although there is an actual decrease in the number of the males in the Minster district. Returning to the third proviso of Malthus it is abundantly manifest that disease has not made its ravages among us in anything like the proportion it has elsewhere. Contagious diseases have been playing their fell work throughout the length and breadth of the country, and yet the Isle of Sheppey has had comparative immunity, the death rate during the past year having been only 17 per 1,000 inhabitants. The cause is evident, and, let people say what they will, the present census gives demonstrative evidence of the salubrity of our locality. Of course we must expect to hear of ague, while people elsewhere call it biliousness, bilious fever, intermittent fever, etc. But if detractors would only reason they would find it somewhat a difficult question to answer, to name a dozen towns in England which have one in less than every 20 of their population above sixty years old, like Sheerness. Facts, we repeat, are stubborn things.

Omnibus moriendum est, but as long as we can continue to produce such a goodly roll of three-score years and ten, we have no fear of being convicted of unduly sounding the trumpet in Sheppey's praises. Give a dog a bad name and we know the result. Sheerness, not many years ago, was a dreadful spot: bad drainage, or none at all, swampy marshes, and rampant iniquity! But, thanks to the efforts of some of our townsmen, old times have changed; the bye-word and reproach are no longer our deserts. A good deal has been done, and a great deal more still remains undone. Practical local reformers, whose experience of Sheerness entitles them to a respectful hearing, say that our improvements must originate from ourselves—that we must not expect much aid from Government or any other quarter; we must set our own houses in order, and the fault will lie with us now if strangers who come among us complain of the paucity of comforts and the difficulty of procuring good necessities of life. The commissariat department in this town have it entirely in their own hands to put a stop to the growing desire of, we had almost said the upper ten thousand, for Co-operative Associations. We are convinced that every vendor is only best studying his interests by keeping stores equal in quality to any to be obtained elsewhere, and retailing them at fair ready-money prices.”

The following letter “On the Isle of Sheppey,” which appeared in the “Times” at the end of November 1871, seems so *apropos* to this part of the subject that I

wish in all candour to lay it before the reader, and let it have whatever weight is its just due :—

“TO THE EDITOR OF THE ‘TIMES.’

“SIR,—In your impression of Friday last you quote from the ‘Pall Mall Gazette’ certain statements from a report of Staff-Surgeon Forbes on the sanitary condition of Sheerness and its neighbourhood. As an act of justice to a population of 17,000 persons, and the owners of property of the annual value of £30,000, will you allow me to contradict those statements? The general description of Sheppey given by Staff-Surgeon Forbes is very inexact and superficial; all the redeeming traits are ignored, and the unfavourable ones are unfairly magnified. The houses of Sheerness are not palatial mansions, but a very large proportion of them are newly built of brick and slate, with streets of 30ft. to 40ft. width, well paved, lighted, and cleansed. Even the few alleys existing in the old part of the town are paved and well cleansed daily; few of them are less than six feet wide. Upwards of £15,000 has been spent on draining the town, and a like amount on the water supply, which is laid on to every house, and the water is of excellent quality. Nearly all the War Department ditches have been filled up and provision is made for flushing the moat surrounding Blue Town with tidal water as often as necessary. The ague is now but little known in Sheppey, and, except in very unfavourable seasons, has assumed a very mild and manageable type. Cholera and smallpox, when

either of them visited Sheerness, which was before the advent of Staff-Surgeon Forbes, did not assume an unusually virulent character; on the contrary, the cases were below the average number, and the fatal results but few. The death-rate for the sub-district of Sheerness for the quarter ending the 30th of September last was 10·9 in the thousand, and for the year ending the same date 13·9 in the thousand. The average for ten years past may possibly be 17 in the thousand, but that includes a large number of violent deaths. For instance, the explosion on board Her Majesty's ship 'Thistle,' in 1869, added nearly a score of deaths to the local register, and numerous cases occur from time to time of bodies picked up and brought into Sheerness, all which deaths are included in the local rate, although when living these persons were not included in the population. Again, the sub-district includes the union house and naval and military hospitals, in which are received many cases of non-residents.

“Staff-Surgeon Forbes appears to have framed a theory that Sheerness ought to be unhealthy. To reconcile that theory with the low death-rate which is known to prevail, he invents another theory, which is that a large number of persons become ill at Sheerness, and go away to die. I have continuously resided in Sheerness for the last 18 years, and have intimately known the place for twice that period. I am in a position to challenge proof of the fact that any such causes are in operation in Sheerness. I affirm that there is not a

healthier town in the six home counties than Sheerness, and that for every one person who sickens at Sheerness and dies elsewhere, two deaths are registered there of persons not included in the fixed population at all.

“Staff-Surgeon Forbes came to Sheerness in August, 1869, held his appointment a period of 18 months only, retired on half-pay, and although a stranger, took a private residence, and settled at Sheerness with his family, who are still resident there. In view of his theories, the leaving his family exposed to the influences he professes to have discovered was a most inconsiderate act. Temperate, regular living, and cleanly people find Sheerness all I assert it to be, and the aspersions cast on it by Staff-Surgeon Forbes will only obtain credit with those who do not know the town.

“I am, etc.,

“A. W. MARKS.

“Trinity Road, Sheerness.”

CHAPTER II.

THE NORMAL FORMS AND PROTEAN VARIETIES OF
AGUE.

It is rather perplexing, though somewhat amusing, to read such accurate distinctions and classifications of *Anetus*, or *Intermittent Fever*, or *Ague*, as those given by Dr. Good,—a Coryphæus, I presume, in all such kinds of nosological analysis. We have first the five grand divisions—*Quotidian*, *Tertian*, *Quartan*, *Irregular*, and *Complicated*—every one of which I have often witnessed while resident in Sheppey.

Then each of these has its own subdivisions. The *Quotidian* may be:—

1. *Partial*, one side only of the body or half the head (*hemicrania*) suffering; or it may be

2. *Catenating*, as when found in union with rheumatism, lumbago, and sciatica; or

3. *Protracted*, when the intermission is so short or imperfect that the patient suffers for eighteen hours continuously, or is never quite clear of the malady till cured; or

4. *Anticipating*, when the paroxysm anticipates the antecedent attack an hour or two; so that the illness which at first assailed you in the day, attacks you in the early morning; or

5. *Retarding*, when the paroxysm you expect to-day at eleven is delayed till noon, next day till one, and so on.

These forms were not so common, but I have verified them now and then, and partly in my own person or in my family.

The subdivisions of the *Tertian* form are less complicated, but I often noticed that, when neglected, this kind became *anticipating*,* and, when treated, the first good sign of improvement was a *retardation* of the paroxysm, which would shift from 11 A.M. on Monday, to an hour or two later on Wednesday, and on Friday, perhaps only a slight touch of it would occur at about three or five.

Good's subdivisions of the *Quartan*, are nearly the same as of the *Quotidian*, but this kind, though well known in Sheppey, is never so common, and seldom affects those persons in whom the liver and spleen are sound. It is apt, however, to interchange with dysenteric disease, which must be treated accordingly between the assaults of Proteus in the other shape.

Dr. Good edifies us very much by giving seven species of the *irregular* or *erratic* ague:—five-day, sixth-day,

* Some months after I had left the Isle of Sheppey, I was seized with daily ague at about 2 a.m., three mornings in succession, the attack lasting several hours: on the fourth day, the system coming under the influence of quinine, the paroxysm did not come on till 8 a.m. and the evil had passed away before noon. On the fifth day I felt only a shiver and a flush, and after that I got well again.

seven-day, eight-day, nine-day, ten-day ague, and the vague and irreducible! Alas! if it be so, how can a poor fellow ever escape? Yet so it is, and although I cannot pretend to have verified all these vagaries of the malady, I have known many persons suffering in this sort of way—they had, or they still have unmistakable ague now and then; and, perhaps, if the days and seasons of their illness were to be noted down, we should find more regularity even at these long intervals, than we should otherwise be disposed to believe in. An acquaintance of mine, who contracted ague some eight or nine years ago in Sheppey, though since then resident in London, still suffers occasionally from attacks of *vague* and *irreducible* ague.

And last, though not least, there is the *anctus complicatus*, the *complicated ague*, with “paroxysms intricate, multiply, or both.”* What a Pandora’s box! “There are seven chief varieties,” saith Dr. Good; but if the chiefs are *seven*, how many are the subordinates? This he does not tell us. Only as a medical curiosity will I note down these seven kinds,—happily little realised in Sheppey, though some of the shapes occasionally are seen even there: but such forms of intermittent fever belong, I presume, to the tropics much more than to us:—

1. *Double tertian*, “the paroxysms of the one tertian occurring in the intermissions of the other; and the two sets evincing a difference of duration or of violence.”

2. *Triple tertian*, the same as the above, but “one

* Good, *ibid*, p. 117.

of the sets having regularly two paroxysms on the day of its return and the other one alone."

I had no experience of either of these kinds, but a medical friend at Sheerness once described No. 1 to me as under his treatment for some weeks; the patient was a delicate female.

3. *Double unequal tertian*, "the one set evincing a more perfect, the other a less perfect intermission."

4. *Duplicate tertian*, "a single tertian with two paroxysms on the regular day of attack, the interval being of ordinary duration."

I once witnessed this kind. My patient said to me, "Sir, my ague be so curious, it comes twice a day."

5. *Double quartan*, "the paroxysms of the one set occurring in the intermissions of the other, and evincing a difference of duration or violence, with an interval on the third day alone."

6. *Triple quartan*, "consisting of a single quartan with regularly returning paroxysms, while each of the intervening days is marked with a slighter attack."

I have had experience in Sheppey of this kind, and it is a condition hard to deal with by bark alone.

7. *Duplicate quartan*, "a single quartan with two paroxysms in the day of attack, the interval being of ordinary duration," and,

8. *TriPLICATE quartan*.—"A single quartan with three paroxysms on the day of attack, the intervals being undisturbed and of ordinary duration."

Now if all this be not enough to establish the Protean character of this harassing malady, I know not what

is ; and besides these regular approaches of the enemy, there is a host of malarious symptoms and ague without perceptible fever to be yet described, though I apprehend that many of them, if closely watched, would be found to range themselves under one or other of the classes so exactly analysed by Dr. Good. At any rate the evil is changeable, erratic, and as manifold as PROTEUS.

But who was Proteus? According to the mythology of ancient Greece, he was a sea-deity—a demi-god under Neptune. He was endowed with the peculiar gift of revealing to any enquirer who could catch him and hold him fast, where any lost property was to be found, or how the damage could be best repaired. But this prophetic old gentleman had a great objection to being bored by inquisitive people, and those persons who wished to interview his majesty had to hide behind a rock or cliff on the sea shore, and watch for him, till emerging from the deep, attended by his *posse-comitatus* of sea-calves and porpoises, he would seek for repose in some favourite cavern or under the shadow of the tall and frowning precipices. We are told by the Poet* that Proteus, on one of these occasions, was

* Virgil, Georg. IV., 387:—

Est in Carpathio Neptuni gurgite vates,
Cœruleus Proteus, magnum qui piscibus æquor,
Et juncto bipedum curru metitur equorum.

* * * * *

Novit namque omnia vates,
Quæ sint, quæ fuerint, quæ mox ventura trahantur.
Quippe ita Neptuno visum est : immania cujus
Armenta, et turpes pascit sub gurgite phocas.

seized in the midst of his nap by the shepherd Aristæus, who had lost all his hives of bees,—no trifling loss to a stock farm in days when honey was used as we now use sugar,—and wanted information as to the means of reparation. Proteus, upon finding himself caught by Aristæus, immediately had recourse to his numerous artifices for escape :—

Omnia transformat sese in miracula rerum

Ignemque horribilemque feram, fluviumque liquentem,

and endeavoured to slip through the fingers of his captor by the assumption of various shapes and phases, either slippery and saponaceous, or fascinating, or bewildering ; or by forms fraught with terror, and aimed at the nerves of his assailant. In the case of Aristæus it was all in vain, for he held the changeling in so tight a grasp that Proteus was soon forced to capitulate* and deliver the oracle required.

Thus Proteus assumed a variety of forms, as mani-

Hic tibi, nate, prius vinclis capiendus, ut omnem

Expediat morbi causam, eventusque secundet.

Nam sine vi non ulla dabit præcepta.

* * * * *

Verum ubi correptum manibus, vinclisque tenebis ;

Tum variæ illudent species, atque ora ferarum.

Fiet enim subito sus horridus, atraque tigris,

Squamosusque draco, et fulvâ cervice læna :

Aut acrem flammæ sonitum dabit, atque ita vinclis

Excidet, aut in aquas tenues dilapsus abibit.

* *Verum ubi nulla fugam reperit fallacia, victus*
In sese redit, atque hominis tandem ore locutus.

Ibid. 443.

fold as those of ague. Yet, however Protean the mischief is, it can be mastered by firmness, and more or less conquered in most constitutions by the patient and persevering employment of appropriate remedies.

True ague, as we all know, is an intermittent disease, with fever more or less, and sometimes apparently without it, and whether it be temporary or chronic a very distinct feature of all the normal kinds, as already described in their respective classes, is *a perfect intermission* of illness and comparative health for certain periods between the paroxysms. But there are abnormal types, as we have noticed, that are definable by no exact terms, and are very irregular in their attacks. Perhaps these should rather be classed under the head of *malarious diathesis* than of ague properly so called. Let me explain myself:—and I hope to do so in a way both interesting to the general reader, and suggestive even to some medical men.

Possibly there are a few general practitioners who have had little or no experience of the Protean forms of the malady so prevalent in Sheppey, Romney Marsh, the south-eastern part of Essex, the Isle of Fowlness beyond Shoeburyness, and other marsh districts. For example, ague often causes a great disturbance of the organs of respiration, and I have known even a medical man at first so led astray as to commence a treatment more suitable for bronchitis or incipient pneumonia than for ague. In such a case the asthmatic symptoms or the laborious breathing were sympathetic and nothing more. They all disappeared as the ague gave way to

bark or quinine, or whatever was its own proper treatment.

One fact, which I had from a medical friend, I will mention in illustration of the possibility of the grand mistake an otherwise good practitioner might make, when surprised by a peculiar case in a region where ague had been from time immemorial unknown.

Ague is sometimes gathering in the system for weeks, months, or even years, before it develops, and especially in cases where the liver is so sound, strong, and effective, that it can sufficiently *demalariaize* the blood, if I may coin such a word for my present purpose. As long as the patient does not change the air, he enjoys, perhaps, his immunity from actual illness; but the foe is lurking in his system, and on his suddenly removing to some other part of the country, out it comes, and possibly an ague is realised in its acutest form.

It was precisely so in my own case, and I need go no further for illustration. I had resided in Sheppey some three or four years without ague, though I soon had an attack of colic, was often annoyed by a brown tongue and parched lips, as well as some indications that there was more than a normal tax on the powers of the liver, in my case perfectly sound. Still I had no ague. One day I was summoned to my father's death-bed, and I travelled from Queenborough via London to Gosport, arriving there in the evening. The next day I was seized with unmistakable ague, and very ill I was too—rigors, fever, sweating, and lassitude

in perfection. Knowing very well what was the matter, I lost no time, and, sending for the medical friend from the death-bed of my departed parent, I did not hesitate to say, "Now, my dear doctor, you will be good enough to treat me,—not as you please, but as I tell you, for I have acute tertian ague." He smiled, kindly said Amen ! and honourably kept his word. The *primæ viæ* were cleared by an emetic of ipecacuanha and sulphate of zinc, two or three doses of diaphoretic mixture were taken, Abernethy's rule about "the main sewer" was attended to, and, when the stomach was thus prepared, two grains of the disulphate of quinine were taken every four hours day and night. The paroxysm returned on the third day later and slighter, the quinine was continued at lengthened intervals, port wine was freely used, the third attack was little more than a shiver and a flush, and, after recovering sufficiently to be present when my father's remains were consigned to the tomb, I returned to Queenborough quite well. Since then I never had acute ague except very slightly once or twice, but in course of time I became a martyr to the chronic nervous forms of old Proteus ; and so much so that at last it became imperative upon me to leave the place and seek a purer atmosphere elsewhere.

But all this time I am forgetting the anecdote in proof of the misapprehension under which a really good medical man may occasionally lie, who, from the immunities of his own circle of practice, has had little or no experience in ague cases.

A gentleman who had resided in the midst of marsh miasma, apparently with impunity for three or four years, removed to a new home some two hundred miles away, where the family of Proteus and the gemiasma with its mysterious spores were unknown. In the course of a very few days, "Mr. Newcome" suddenly drooped and became very ill with high fever, and so intense a head-ache that he was almost delirious. The head itself was very hot, and the symptoms were so urgent, that the medical man of the locality being called in thought it advisable to shave his patient's head, and apply a large blister to the occiput from ear to ear. A soothing febrifuge was prescribed, and whatever was proper to be ordered or done as for the accession of brain fever was enjoined and carried out; but so ill was poor "Mr. Newcome" that when the worthy doctor retired,

He took his leave with signs of sorrow,
Despairing of his fee to-morrow.

After an interval the fever seemed to abate, a moisture came upon the skin, then an immense perspiration set in, the patient fell asleep, and towards morning the invalid was wide awake, free from all aches and pains, as coherent as a judge, and ravenously demanding his breakfast! The doctor called early in the day, and found a famous bladder under the poultice, with which after six hours the *emplastrum lyttæ* had been followed up. This was snipped and dressed, and the patient congratulated on the favourable progress he had made. But he was to be kept very quiet, and the diet must be

very spare and antiphlogistic. However, the patient continued so comfortable during the forenoon, and had so keen an appetite that he felt quite equal to a rump-steak, and saw no reason why he should not go abroad except for his shaven pate, and the supplementary process in the poll. The medical friend called again in the evening, and assured the convalescent that he had been blessed with a most happy deliverance from *encephalitis*, which rendered into our plain Saxon means *inflammation of the substance of the brain*—rather a serious matter I should think. However, in the forenoon of the third day “Mr. Newcome’s” symptoms returned with almost equal severity; but the headache gave way as fever abated and diaphoresis came on, followed as before with sleep and appetite, and an interval of comparative health, nothing tormenting the patient but his blistered poll, or annoying him except the perfect tonsure of his pericranium. At last light dawned on the doctor,

Catus quantumvis rusticus,

especially when he reflected on the fact that his patient had resided so long in the marshes of a distant county, and had brought with him into his new locality, where all was chalk and gravel, a system loaded with ague poison, which from some peculiar condition of “Mr. Newcome’s” physique was developing itself in this sudden and formidable way. “Why,” exclaimed the doctor, “it is ague after all! the headache was secondary and sympathetic; I see it now.” The specifics for ague were then freely exhibited, and “Mr. Newcome” soon became perfectly well.

To this little episode I will only add that, while in Sheppey, I often met with ague cases marked during the paroxysm by intense headache. Young children would be delirious for two or three hours at a time. I never found any advantage in treating the *cephalalgia, per se*: it went off as the ague-fit abated. Once or twice I had recourse to small blisters behind the ears; but, after all, *bark* in some shape was, is, and will be to the end of time, the real *cheval de bataille*, wherever the fight is with ague and malaria.

After the analytical lists I have already given from Dr. Good's works, there is no necessity for describing the different classes of intermittent fever, but I think I am justified in remarking that each kind has its acute and its chronic type, the former being attended by very distinct fever, the latter being without it, or at least so far free from it that the febrile action is scarcely perceptible; and while a foul and brown tongue is characteristic of the acute kind, in the case of the chronic the tongue is perhaps only whitish or moist and clean, but *it is invariably pale*. I have seen a hulking navvy in this condition of quartan ague with a tongue as pale and bloodless as the tongue of a young girl in delicate health.

This case I treated chiefly with infusion of buck-bean, and it did well, independently of quinine.

The two classes are also distinguished by unmistakable signs in the *excreta*, indicating, by colour or deposition, the distress of the liver, and the augmented work of the kidneys in nature's effort to clear the blood

of poisonous mischief inhaled and running through the vitals. That which, in the acute kind, is high-coloured, and throws down a bran-like sediment, in the chronic or nervous form, is pale, clear, and in excess. This will suffice, for I wish to give my reader only a general view: the exact details would belong to a work more accurately medical.

Here, too, I would just observe that the real tertian seemed to me the *coryphæus* of agues: but, although I had to deal with so many cases among the poor, for twelve years and more, it was seldom that I treated a well-marked case *ab ovo*. For most of the people had a knack of doctoring themselves in various ways, and for the most part would not come for further help till the acute stage of their illness was over, and the chronic had set in. The consequence often was, that those suffered for weeks who might have been promptly relieved if “the bull had been taken by the horns” at once, or our Proteus held fast before he had time to slip into another shape.

1. The symptoms of acute tertian ague are so well known that I scarcely need describe them, especially after the illustrations afforded just now by my own case and “Mr. Newcome’s.” But very remarkable is the coldness of the extremities, and the icy condition of the tips of the fingers; they are sometimes, for a short time, somewhat shrivelled or bluish. I have now and then seen a babe at the breast with its little hands and fore-arms almost as dark as an unboiled lobster.

When the rigors come on, it is sometimes as if ice

were in your backbone; you will shake like an aspen leaf, it may be impossible to prevent your teeth from chattering, and you make an involuntary noise, something between a rattle and a grunt, which you could not make if well, though you should try. Nature, however, strives to relieve the liver and spleen by throwing the onus on the skin. You are very hot for a couple of hours or more; then a profuse sweat sets in, and the worst is over. The patient who at the outset wished for something hot, then for something cold, now asks for a little more support than drink either stimulant or cooling; he will relish a basin of good soup, or ere long can discuss a mutton chop. The next day he is "all right," though perhaps a little languid. This form is most common in the spring and early summer, but I have met with it at Queenborough all the year round.

2. In the chronic type of this form, there are no paroxysms of fever, but the nervous system is much affected, sometimes quite seriously so, the vascular system remaining unscathed, except the debilitating effect in course of time on the viscera, if the attacks are very frequent and persistent.

I can describe this form most accurately from what I have suffered, and still more or less feel, in my own person; for though I have been far away from all marsh air for many months, still

Post equitem sedet atra cura,

and while I am penning these very pages, the "messenger, sent from Satan to buffet me," is at hand.

I have often observed that if the ague poison is lurking in the veins, anything that weakens or depresses the general system seems to bring it out again in its pristine malignity; just as our friends from India, who while there suffered from jungle fever, are apt to be more or less affected by a chronic form of nervous malady perhaps for years after their return to England.

About three weeks ago, and I am now in March, '71, I unfortunately caught a severe cold, and had an attack of winter cough or chronic bronchitis, the attendant asthma being of a spasmodic character, and arising from functional disorder rather than from any organic change. This bronchial attack soon yielded to the usual remedies, but so weakened me that I became unable to withstand the old enemy, and found that instead of my having mastered Proteus, he had got fast hold of me. I was now suffering from a severe attack of "dead ague," as they call it in Sheppey, and it was necessary to abandon the bronchial remedies and fall back on bark and quinine. During this attack the tongue was clean, there was no thirst, no sensation of heat, and no headache; but the limbs ached intensely, and the condition of the sacral nerves, the gluteal muscles, and backs of the thighs was most distressing—sufficiently so to render me incapable of walking across my room with any degree of comfort. The crisis of misery was between noon and three o'clock. I then had spirit enough to read the newspaper, and managed to write a letter. By six o'clock

the evil was, in a manner over, and before nine I was comparatively in health. As the system comes thoroughly under the influence of quinine the malady abates; but one must be thoroughly cinchonized in order to drive it from the system. My own case has nothing unique about it, being one of a thousand: though truly no two cases are ever exactly the same, as two human faces cannot be found without some trivial differences, even in twins.

3. Of quartan ague, whether acute or chronic, I need say little more, the symptoms so much resemble those of the tertian type, except that the intermission is for forty-eight hours instead of twenty-four; and that this form is more prevalent in the autumn and early winter. I think, too, I have observed that in acute cases of quartan, the tongue is rather white than brown, with a yellowish streak down its centre, and in bad cases there is a tendency to typhoid, if not to typhus. I remember that, on one occasion, requesting a quartan patient to put out his tongue, I observed that peculiar tremor of the organ so characteristic of a typhus type. I took it as a hint to me to keep up the patient's strength. Abernethy's blue pill and colocynth were clearly contra-indicated, or I might have been guilty of manslaughter. I took all due care of my patient, and he got quite well in ten days or a fortnight.

I believe these cases of quartan ague, especially the autumnal ones, are apt to degenerate into bilious remittent fever. This, however, I don't undertake to describe in this treatise, remembering the old adage,

ne sutor ultra crepidam. If it really does supervene, it is an affair so serious that it requires the skill and responsibility of a regular practitioner. Happily this yellow fever in miniature—for that it really is—though rife now and then in autumnal weather, is not common in Sheppey. As a rule, it requires an antiseptic restorative treatment, great attention to the digestive system, and a careful nursing of the strength of the patient. Is it not a kind of *continued ague*?—if I may be allowed the expression.

[NOTE.—A case has just occurred to me, so strikingly illustrating Mr. Bingham's remarks at page 38, that it is worth relating. Having to meet in consultation a very excellent general practitioner of large practice, he told me, in explanation of the very distressed condition in which he appeared to be, that his wife and daughter had been ill for two or three weeks with "typhoid fever," and were doing very badly; that on several occasions the temperature had risen to 107 deg. Fahr., and that such had been the case during the night just passed, causing him intense mental anguish, as he felt sure they must die. I guessed at once that they had ague instead of, or as well as, typhoid, and I told him I was sure there must be some great mistake in the diagnosis—unless a dangerous intestinal complication was imminent, which I doubted; and he begged me to go home with him, after our consultation, and see the patients.

On carefully examining the cases, it was quite clear that they were suffering from ague, and that this was the explanation of the rise of temperature to 107 deg. without any complications supervening; and on enquiry I learnt that they had been spending a month's holiday at a farm-house in the neighbourhood of Sheerness, from which they had returned in apparent health about a fortnight before they were seized with rigors and fever.

I put them at once on 5 grain doses of quinine, and straight-way they got well.—H. D.]

CHAPTER III.

MALARIA.

THE more thoroughly Protean and manifold forms of subacute or undeveloped ague, which may all be classed under the head of Malaria, must claim our special attention, and demand a chapter to themselves, affecting, as they do, every part of the human frame in divers ways in different people. Let us commence with the head, and travel downwards, while reviewing the chief of these painful symptoms.

1. Brow ague is a periodic neuralgic affection of the parts just over and upon the eye-brow, right or left. It is not very common in Sheppey, though it is frequent; and, in my observation, women were more liable to this kind than men. It was in this form that a member of my own family usually suffered when attacked at all. It generally yielded to full antiperiodic doses of quinine, though in the case of delicate girls the addition of the perchloride of iron was often indicated. I have also known a case or two in which the only successful method of treatment was by a combination of carbonate of ammonia and the sesquichloride of iron—five grains of the former to eight or ten of the latter, three times in twenty-four hours.

2. *Neuralgia faciei*, commonly called *tic douloureux*, was not very common, but it did occur as an ague consequence in some people, abating and returning at regular periods. It was much more distressing than brow ague, and rather more difficult to manage. Being an affection of a certain portion of the fifth pair of nerves, it seemed to call for extra attention to the digestive system, and a combination of anodynes and tonics. I have known it yield to the *citrate of ammonia with quinine*, and on one occasion it quickly gave way under a full dose of Collis Brown's chlorodyne, followed up, after a little preparation, by anti-periodic doses of quinine.

3. I have sometimes witnessed great disturbance of the respiratory organs with spasmodic asthma, and occasionally palpitation of the heart on the slightest extra exertion. So great was the debility that merely lifting the arms to brush the hair would be too great an effort; and to mount a short staircase would be enough to throw the patient into a sharp fit of dyspnœa.

This kind, however, would yield to an antiperiodic and tonic treatment, quinine being alternated with steel; but at times, when palpitation of the heart was present, much good resulted from the addition of a few drops of the tincture of foxglove (*digitalis*), which seemed to restore the stamina and steadiness of the organ; the moment that object was effected, the *digitalis* was withdrawn. Sometimes it was found that the combination of henbane (*tinctura hyoscyami*) with

the perchloride of iron was a good exhibition and not to be despised.

4. In such an ague district as Sheppey, a nursing mother will sometimes suffer severely with *neuralgia mammarum*, ague in the breasts; I witnessed it occasionally. One young woman, who had been married seven or eight years, would perhaps be suffering in that way, while her little children were prostrate with their frequent agues. Once when her case was very severe we got much comfort from hot fomentations of chamomile and poppyhead, using a teaspoonful of Twinberrow's* concentrated preparation to a pint of boiling water. This gave relief, but, without decoction of bark with tincture of the same, and some serpentary, the cure would not have been effected. Just as the ague was driven out of the system, this Protean form also disappeared.

5. But Proteus often comes in the form of *neuralgia of the stomach and bowels*. I often suffered in that way myself, and I can say from dire experience how sad and severe a thing it is to have "*the ague in the belly!*" I have felt, for hours at a time, as if I had a hard biscuit sticking right across the stomach, or I seemed as if I had no bowels within me, except that they were aching intensely. Pressure would give temporary ease to these forms, thus proving their neuralgic character; and often have I got relief for a while by constringing myself round the waist with a flannel belt.

* Of Wigmore Street. This preparation is very good indeed, quite reliable, and saves a great deal of trouble.

At these seasons, I used to long for a pair of pantaloons made as Mr. Mitford, who many years ago published a history of Greece in strange spelling, is said to have had his nether garments fitted, viz., with side lacings all down, so that in cold weather he could draw them in close and tight to the limbs. Had I been so fortunate as to have possessed a wardrobe *à la Mitford*, I should have sometimes laced up my bowels, as tight and tidy as a sailor's hammock! A mutton chop or bit of rump steak, very nicely cooked, were also palliatives, and not disagreeable, especially if washed down with a glass of dry port if I had it; but the illness itself was an unmistakable indication that quinine and acid, perhaps in calumba infusion, were called for, or in combination with a full allowance of the compound tincture of bark.

6. Our manifold Proteus sometimes takes the shape of *severe colic*, and while it lasts, it is nearly as painful as the painters' malady, though neither so persistent nor so dangerous. I should not regard that kind of colic which is one result of undeveloped ague as likely at all to destroy life, except in the case of very young children who could scarcely endure the onslaught without convulsions.

In my own case it was in this form that I was attacked after having resided in Sheppey for about two years. Previously I had often complained of a very brown tongue, dry mouth, and parched lips, after having been long in the open air. During this primary attack, fomentations gave me ease, but I had no actual

relief till the spasm was reduced, and that happened unintentionally—some medicine which was prescribed as an aperient by a surgeon, to whom I was then but little known, having acted as a sharp emetic; the spasm then gave way at once, and I soon got well, and continued so, till a year or eighteen months afterwards I was knocked over by acute tertian ague, as I have already described.

While at Queenborough, I treated a few examples of this kind. A slight attack readily yielded to a moderate dose of chlorodyne; but I found castor oil with laudanum a good and safe remedy, but certainly not popular; and on one occasion my patient, a hulking young dredger, was so positive in refusing my prescription, saying, “No, Sir, none o’ that, not if I knows it,” that I was forced to give way and manage otherwise; yet curiously enough, as soon as he was ready for it, he had no objection to a glass of hot grog! In fact I often found that spirituous remedies were far more acceptable than spiritual advice; and I fancy the parish doctor got comfortably through no end of work by “throwing physic to the dogs,” and ordering brandy at the public cost. I never knew the patients to complain of such a recipe. No one ever then said, “Not if I knows it.”

7. But of all the malarious illls that Sheppey-flesh is heir to, I know nothing more distressing or more debilitating than the *neuralgia of the sacral nerves*, affecting the sacrum, hips, the large gluteal muscles, the backs of the thighs, and their anterior parts for

eight or ten inches above the knee pans. For a long time I have myself suffered severely in this way; and sometimes the distress has been for hours so intense that if I had been a child I must have blubbered outright. Sometimes I have been so disabled by this form of the chronic mischief, that if I happened to have it on Sunday forenoon I could scarcely walk over the fifty yards between my vicarage and the church. A funeral when I was in such a condition was a torture that might have satisfied Thomas de Torquemada himself. But there was no alternative. I had to grin and bear it till the fit was over, and then pitch into quinine, or rather pitch it into me, following up the advice of my medical friend at Sheerness, who would say, "Malaria, malaria! you must take quinine till you are cinchonized."

Some said it was nothing but old age creeping on, and being now among the septuagenarians I might have thought so myself, except that I found many of my parishioners, and some of them comparatively young men, in the same plight, and so much so as to be scarcely able, while the attack was on, to walk to their duties in the dockyard. I knew of a case of this type so severe—the patient was under thirty—that after much trouble it yielded only to a large blister laid across the sacrum with a sort of tongue on one side, running a few inches upwards along the course of the lower spine. No; old age has nothing to do with it, except that when we are elderly the *vis medicatrix nature* is weaker in us, and we have consequently less resisting

vigour or strength for shaking it off. It is positively a functional illness from that peculiar condition into which the house we live in is brought by previous attacks of intermittent, just as those who have contracted jungle fever in India are liable to a chronic malady now and then for months, perhaps for years after they have returned to England.

It is often very persistent; but by proper treatment and good management it may be gradually moderated and finally forgotten, when the last dregs of the malarious mischief shall have passed out of the blood. On the other hand I must admit that to some constitutions, and especially in the case of elderly persons, who do not readily get acclimatised, these manifold forms of malarious influence are very serious; they make such inroads on the general strength, and so thoroughly enfeeble every part of the vascular system, the blood being so much poisoned (toxæmia) as to become less stimulating than is requisite for normal health; and hence functional mischief of the heart and lungs evinces itself in laborious breathing on extra exertion, or a condition of spasmodic asthma becomes established. The proof is, I think, in the fact that the same kind of treatment as will reduce the ague will remove these and other sequelæ or concomitants of the primary evil, unless the patient be worn out and quite past mending.

8. *Enlargement of the spleen* is also among the recognised sequels of frequent ague. I remember one case at Queenborough of a working man whose ague seemed to be incessant and incurable. The poor fellow's spleen

was organically changed, and the liver almost useless for its proper purposes. The patient became emaciated and was as pale as death, with a yellowish greenish hue about the face, for months before he died.

9. In some persons I have known the power of the liver for secreting bile from the blood quite lost; and in one instance a case of *severe jaundice* was distinctly traced to repeated attacks of ague. Congestion of the liver in neglected cases is very common; and I once met with the case of a little child with tumid belly from *enlargement of the mesenteric glands* after intractable ague. Good was done by alteratives night and morning, interpolated during the day by quarter grain doses of quinine every four hours. After some little perseverance the belly became smaller, the child's face, poor little thing, grew less pallid, and the appetite seemed disposed to return. When I left the parish, this patient was better, but still far from being well.

CHAPTER IV.

HOW TO DEAL WITH AGUE AND MALARIA—NOSTRUMS
AND PALLIATIVES—SPECIFICS AND REALITIES.

I SUPPOSE I am not incorrect in my data, if I lay it down as a principle in treating agues of all types, that we must have *bitterness and astringency*, and, generally speaking, some amount of acid: and the more intense the bitter so much the better, provided it be sufficiently charged with Quinia. This we get in decoctions and infusions of bark, and to perfection in a small compass in the disulphate of quinine—that admirable combination of the active principle of bark with sulphuric acid. Of the various methods of administration I will speak presently: my point just now is the necessity which exists for *the bitter*—a principle which rules in family recipes and provincial nostrums. I have been assured that ague can be cured by means of ox-gall, and I believe this remedy is sometimes employed in ague districts. Perhaps there is something in it; for the celebrated Gmelin tells us that ox-gall contains a peculiar bitter principle which he terms *taurin*. For my part, I never had recourse to this remedy, very much preferring some good slices from the ox's rump to anything from the animal's inside.

This, by the way, reminds me of the recipe of a gentleman in Sussex with whom I am acquainted, and who assures me he can cure ague by a single dose, and, best of all, “on Scriptural principles.” He tells me to possess myself of three trout, or some other fish of that kind; take their hearts, livers, and gall-bladders; for, I presume

Numero Deus impare gaudet,

and haply there is a mystic charm in $3 \times 3 = 9$! These three hearts, three livers, and three galls must be thoroughly dried over a slow fire; then they must be reduced to a fine powder, be mixed with a quarter-pint of water, and be swallowed by the patient in one draught,—“*and he will never have the ague again to the end of his days.*” I should think not indeed; for if anything would drive the ague-devil out of you, I fancy such a *quietus* as the foregoing would *lay* him for ever, or send him helter-skelter to Jericho or a great way further off!

But we must not forget my friend’s “Bible proof,” and a pity it is that he did not flourish in 1662, those glorious days of Sheldon and Bel and the Dragon; for my friend is a lawyer, and they would have made such a champion of the Apocrypha nothing less than Lord Chancellor!

My good friend’s authority commences at the fourth verse of the sixth chapter of the Book of Tobit, to whose worthy son, Tobias, when he had caught a certain fish, his guardian angel said, “Open the fish, and

take out the heart, and the liver, and the gall, and put them up safely." He next informs him (ver. 7) that "If a devil or an evil spirit trouble any, we must make a smoke thereof before the man or the woman, and the party shall be no more vexed." What an invaluable remedy! for surely there are a good many noses, both male and female, under which this fumigation might be raised with advantage and the in-dwelling demon be driven out of them accordingly!

But let me go on with my friend's Scripture—*Apocrypha*, I should say. Good Tobias—and he certainly was a very excellent young man—was about to marry a relative who had already had seven husbands; but "a wicked spirit who loved her" (ver. 14), poor girl! had maliciously killed these unhappy men, one after the other, as soon as they entered the bridal chamber. Now, Tobias was a bold youth to aspire to his beautiful cousin after this; but he carried a charm with him, and before he went to bed he was "to make a smoke with the heart and liver of the fish, and the devil, smelling it, would flee away, and never come again any more." (vers. 16, 17.) Tobias obeyed, and so terrible was the effect that the devil fled into the utmost parts of Egypt, and the angel caught him, and bound him fast." (viii. 2, 3.) I have only to add that the gall of the fish was to be "reserved for the benefit of old Tobit's eyes, which being pricked (made to smart) therewith, he shall rub, and the whiteness shall fall away, and he shall see:" for during the

absence of Tobias his worthy old father had become blind. (xi. 3—8.) What an absurd tale! and how properly, at last, removed from the Prayer-book of the Church of England, according to the Revised Tables of Lessons now coming into use. But to return to my friend: whether he has the greater faith in the remedy, or in what he terms “the Scripture for it,” I cannot tell. This, however, is plain enough: that, even in the latter part of the nineteenth century, we are not clear of superstition; and if the educated can fall under such prejudices, how much more will the lower classes go astray? Do we not sometimes condemn them much too hastily for faults of which the example has been set by their superiors?

Allowing, however, for argument's sake, that there is any truth in this strange specific, I apprehend the force lies in *the intense bitterness* of such a draught.

In justice to my friend again, we must remember that Dr. Paris in his *Pharmacologia* tells us that there was a time when a roasted toad was a sovereign remedy in some cases; while within the last few years a London doctor was prescribing the “*excreta monitoris Nilotici*”—a kind of guano shall I say?—to many of his patients. But why are the droppings of that weazel-kind of creature that tracks the crocodile and eats up its eggs, peculiarly rich in ammonia? I suppose that was the principle—at least I judge so from having once seen the doctor's prescription, and knowing the patient for whom this unsavoury remedy was prescribed.

I have heard in Sheppey of *laudanum* and *cayenne pepper*, and no bad remedy either in some chronic cases of quartan, where a good stimulant was required, and that opium,* if safely managed, is not to be despised.

* If ague be a nervous disease, as surely it is, especially in its chronic form, it is quite reasonable that so powerful a neurotic as opium, combined with quinine, which is both neurotic and tonic, should prove efficacious. Here is a passage entirely *apropos* from Dr. Balfour's "Introduction to Medicine" (p. 202, Edinburgh Edition, 1865). "I have been informed that the intermittent fevers of the fenny districts of England, have lately been most successfully treated by a combination of *belladonna* and *quinine*, and in the severer forms of intermittent fevers in India a combination of *opium* and *quinine* has proved most successful. In April, 1852, a circular was sent from the Army Medical Department, based upon the statements of Staff-Surgeon Dr. Kehoe, that the remittents of the West Coast of Africa were found to be more manageable than hitherto when treated by a combination of quinine and opium, and recommending this method to the attention of the Army Surgeons in the East." Then follows an extract from a letter by Dr. Drysdale, who had charge of the sanitary station at Darjeeling. "At your suggestion I first used small doses of quinine and opium, in the proportion of five grains of quinine to one of opium, and after a little experience of its efficacy I never used any other plan. . . . When a man presented himself as being the subject of ague, I found out at what hour the attack came on, and the day the next would be expected. Then one hour before it should come on, and on the right day a powder as above was given (*viz.*, Q. gr.v. and O. gr. i.). If the man should nevertheless have another attack; on the day when he should *next* have it, the quinine and opium was given an hour and a-half before the expected time, then two grains of quinine the hour before, and two grains more half an hour before

This reminds me of some very excellent pills of quinine and cayenne sold by Mr. Gordelier of Sittingbourne. I often had recourse to them for myself and others, and found them very useful. I suppose, too, that tincture of capsicum is one ingredient in those hot and pungent mixtures which are sold over the counter as anti-ague specifics by chemists in all malarious localities as regularly as groceries and butcher's meat. I apprehend they contain small proportions of the best quinine and a large percentage of *muriate of cinchona*.

Before the discovery of the disulphate of quinine, comparatively so modern, the exhibition of bark could be made only in decoction or substance, and a common domestic remedy was an ounce of the powder in a bottle of port wine, the dose varying from a teaspoonful to two or even three tablespoonfuls three or four times

the expected time. I never required to use the above treatment more than twice. I then directed the patients to have on the day the attack should take place two grains and a half of quinine and half a grain of opium, before the expected time, probably a week or so, and on the day of interval simply a dose of quinine." Surely there is no reason why this kind of method might not be followed in our English agues, especially when more intense or abiding. A medical friend suggested to me recently thirty drops of laudanum, and three grains of quinine, when the attack is coming on, and then go on with quinine and acid only. In some cases he thought five drops of laudanum and one or two grains of quinine might be taken every four, six, or eight hours, according to the stages of the illness; after a time omit the opium and go on longer with the quinine.

in twenty-four hours; and a very nauseous draught it was, though efficacious enough when the stomach would bear it. This was sometimes rendered still more nauseous, but certainly more beneficial by the addition of snake root, *aristolochia serpentaria*, in such cases as required a diaphoretic stimulant. I have, in my own experience, often proved its efficacy in quartan ague, especially if there was a tinge of typhoid in the patient; but I never found it useful, but rather the reverse, in the acute forms of tertian. I think, however, that it is too much neglected by the faculty. A medical man of some years' standing once said to me, "What is it? I never heard of it." I gave my friend a wrinkle, son of Æsculapius as he was. My method was to combine the tincture of serpentary with the quinine mixture, and with or without the tincture of bark according to circumstances.

But our *cheval de bataille*, or, if we prefer a nautical phrase to a military term, our *sheet anchor*, is the *sulphate of quinia* commonly called *quinine*; and justly so, it has so many and so great advantages. To the medical man it is everything, as Hector was all in all to his wife Andromache, who, notwithstanding her manifold troubles, could say—

Yet while my Hector still survives I see
My father, mother, brethren all in thee.
Alas! my parents, brothers, kindred, all
Once more will perish, if my Hector fall!

What should we *now* do without quinine! Well and wisely are we rearing enormous plantations of this

tree of life in India and elsewhere. Among the few really good things the Jesuits have done, is the discovery they originally made in South America ; and truly it is a good weight in the scale on their behalf, though even this cannot compensate for the mischief they have wrought, the wars they have stirred up, and no end of human miseries to be traced to their interminable plots and machinations. If, however, the Jesuits deserve our best thanks for their bark, what tribute shall we pay to the French chemists who first got the quinia out of it, and by means of a felicitous combination of sulphuric acid with the alkaloid base, gave us the *quinine*, as the preparation is now popularly termed ? How endless its uses ! How immense and manifold its appliances and results, in accordance with the nature of the dose we employ, as tonic or antiperiodic ! Hereafter, while our people can never more do without tea, our medical men would come to a standstill without this active principle of bark, and we may justly add, changing a single word of the Latin line—

Te facimus, Quinina, Deam cæloque locamus !

I suppose the muriate of cinchona, which I mentioned just now, will generally answer the same purposes, or some of them, but though much cheaper than quinine, grain for grain, it is very much weaker. To have any antiperiodic effect, it must be given in much larger doses, and hence it is a questionable economy. As a simple tonic in convalescence it might do just as well as quinine, especially if combined with infusion

of calumba and the like ; but it is too bad to supply it where quinine is expected, or to vend it for what it is not. Is this sort of thing ever done? I have my doubts and fears from a circumstance that once occurred, but which I forbear to relate.

Among remedies against ague the buckbean, *menyanthes*, or *trifolium paludosum* is not to be despised. The plant abounds in the fens of certain parts of Lincolnshire, Thorney, Whittlesea, and the Bedford Level. I am not aware that it is known in Sheppey or in Romney Marshes, or similar spots where saltings have been recovered from the sea. The fens I have just named are not saltings, but rather drained freshwater morasses, or the peaty bottoms of old shallow lakes, which have a flora as well as a fauna of their own. The *menyanthes* is best calculated for quartan ague, which used to be the prevalent type of the ague of those fenny regions, now so much improved by drainage and agriculture. If the plant is indigenous in those localities, the fact would verify the favourite dictum of Culpepper and other herbalists, that in every region liable more than others to some peculiar malady, God in nature has given a herb specially adapted as an antidote to the local mischief. And so saith the Latin poet—

Nec sterilis locus ullus ita est, ut non sit in illo

Mista ferè duris utilis herba rubis.

I used the infusion of this herb now and then while at Queenborough, but it was too cumbersome, there was too much liquid to be taken, though the cost was

but trifling, and people disliked the intense bitter. Once, however, I gave it with great success to a navy with quartan ague. My good friend had no objection to large potations of another kind of bitter, and made light of three table-spoonfuls of the infusion three times a day. I gave him no quinine; he got well without it.

There is yet another intense and pure bitter, which, perhaps, should be mentioned, though I never used it against ague in Sheppey, the *chiretta* or *chirayita*. I believe the native doctors in India employ it, and possibly in England it might be found serviceable in malarious cases. The infusion is as easily made as tea, and might be combined with cardamom or red lavender or the like. Many years ago, when I was resident in south Lancashire, I prescribed the *chiretta* most successfully for an elderly patient in a state of great prostration after bronchitis. It acted like a charm, though my patient while rapidly convalescing found great fault with the medicine because "it gave him such an appetite, he could not get enough to eat."

CHAPTER V.

FORMS AND MODES OF ADMINISTERING REMEDIES.

THE following recipes have all been repeatedly tested, and are now stated as the means for the domestic treatment of agues and malarial poisoning in cases where the advice of a professional man cannot be obtained. The doses are put down at the general maximum for the male adult, from eighteen years of age to sixty-eight or seventy, to be modified in administration, according to sex and age respectively, down to the minimum doses for little children or infants at the breast. For quite a young child, the general rule is $\frac{1}{12}$ of the maximum dose for adults; and thus, if we give three grains of quinine to a man every 4, 6, or 8 hours, we may properly administer $\frac{1}{4}$ of a grain to a babe six months old. This is the rule, but some margin must be allowed for discretion, either way, according to the peculiar condition of the patient; neither does it follow that because, on an emergency, we might give one drop of prussic acid to a young child dangerously ill from *laryngismus stridulus*, i.e., *crowing croup*, and possibly with immediate benefit, we may therefore with impunity give twelve drops to his father. Thus also in the exhibition of calomel: as a rule children bear more in proportion than adults;

and, accordingly, we dare not administer twelve grains to the mother because one may occasionally be given to her infant. In medicine, as in other arts and sciences, the general rule is the outline for guidance; the exceptions are in consequence of idiosyncrasies, accidents, and undefinable circumstances.

Table of Weights, Measures, and Signs as used in the following Prescriptions.

1.—WEIGHTS.

The pound, lb	.	.	equal to 12 ounces.
The ounce, $\bar{3}$	.	.	„ „ 8 drachms.
The drachm, $\bar{5}$	.	.	„ „ 3 scruples.
The scruple, Θ	.	.	„ „ 20 grains.
The grain, gr.			

2.—MEASURES OF FLUIDS.

The gallon, cong.	.	.	equal to 8 pints.
The pint, O	.	.	„ „ 20 fluid ounces.
The fluid ounce, $f\bar{3}$	.	.	„ „ 8 fluid drachms.
The fluid drachm, $f\bar{5}$	.	.	„ „ 60 minims.
The minim, η .			

The half is marked thus, ss, *e.g.* $\bar{3}$ ss, half an ounce; gutt. implies a drop from the vial containing the medicine, because it is dropped and not measured. $\bar{a}\bar{a}$ stands for “of each,” when in a prescription two ingredients are given in equal quantities, thus,—

Tinct. Cinchon. Co.

Tinct. serpentar. $\bar{a}\bar{a}$ $f\bar{3}$ ss.

APOTHECARIES' WEIGHT.

Pound.	Ounces.	Drachms.	Scruples.	Grains.
1	= 12	= 96	= 288	= 5760
	1	= 8	= 24	= 480
		1	= 3	= 60
			1	= 20

THE IMPERIAL GALLON.

Gallon.	Pints.	Ounces.	Drachms.	Minims.
1	= 8	= 160	= 1280	= 76,800
	1	= 20	= 160	= 9,600
		1	= 8	= 480
			1	= 60

NAMES AND TEMPERATURE OF BATHS.

1 Hot	.	.	.	.	.	from 98° to 106°
2 Warm	.	.	.	.	.	„ 96° „ 98°
3 Tepid	.	.	.	.	.	„ 85° „ 96°
4 Vapour	.	.	.	.	.	„ 100° „ 130°

 RECIPES.
1. *Simple Quinine Mixture: Tonic.*

R Quinine	from ℥ss to ℥j.
Dilute sulphuric acid	.	.	.	.	℥xx.
Syrup of orange peel	.	.	.	.	f℥ij
Water	.	.	.	.	up to f℥x.

Two table-spoonfuls twice or three times a day.

Sometimes the infusion of quassia is an advantageous vehicle in place of water.

Infusion of calumba is a good vehicle when the stomach is weak. If this or the quassia is employed, one grain of quinine to the dose will be ample.

2. Quinine Mixture: Antiperiodic.

R Quinine	.	.	.	.	from ʒj to ʒss.
Dilute sulphuric acid	.	.	.	.	fʒss.
Syrup of saffron	.	.	.	.	fʒiiss
Water	.	.	.	.	up to fʒx.

Two table-spoonfuls every four hours at first, and then at six hours and eight hours, and twice or once a day as the paroxysms disappear.

This formula is good for tertian ague, and is rendered even more efficacious by *the addition of the compound tincture of bark*, thus,—

R Quinine	.	.	.	.	.	ʒss.
Dilute sulphuric acid	.	.	.	.	.	ʒxx.
Compound tincture of bark	.	.	.	.	.	fʒv.
Syrup of orange peel	.	.	.	.	.	fʒiij.
Water	.	.	.	.	.	up to fʒx.

The dose the same as the preceding.

3. Quinine Mixture, chiefly for Cases of Quartan.

R Quinine	.	.	.	.	from ʒj to ʒss.
Dilute nitro-hydrochloric acid	.	.	.	.	fʒj.
Tincture of serpentary	.	.	.	.	fʒss.
Comp. tinct. of bark	.	.	.	.	fʒvj.
Water	.	.	.	.	up to fʒx.

Two table-spoonfuls three times a day.

Syrup may be used if wished for, and in this case,

especially if there is flatulence present, the syrup of ginger will be well employed.

4. *Quinine with Neutral Salts.*

Useful in assisting the liver, and when it is desirable to keep the bowels free without giving drastic purges.

R Quinine as before, say	.	.	.	.	3 ss.
Epsom or Glauber salts	.	.	.	.	3ss.
Dilute sulphuric acid	.	.	.	.	f 3 ss.
Syrup of saffron	.	.	.	.	f 3 iiss.
Water	.	.	.	.	up to f 3xvj.

Three table-spoonfuls twice or three times a day.

This form should be taken an hour before breakfast, early dinner and tea. The salts may be increased a little if necessary, or lessened or omitted if they act too much. But their action in connection with the quinine is often most beneficial. It is better than giving blue pill and senna. If the liver is very much out of order it may be well to make up this mixture with dilute hydrochloric acid instead of the sulphuric. And it is to be remembered that the Glauber salts are milder than the Epsom.

5. *Bark Mixture for Cases where Quinine is not borne well.*

R	Compound decoction of bark	.	up to	f3xii.
	Compound tincture of bark	.	.	f3vj.
	Dilute sulphuric acid	.	.	f3ss.
	Syrup of orange peel	.	.	f3ij.

Two table-spoonfuls, twice or three times in 24 hours.

This mixture should agree well with the stomach and improve the appetite.

N.B.—The decoction of bark may be had in a concentrated form.

6. *Bark with Serpentry, in cases where a diaphoretic stimulant is desirable.*

R	The decoction of bark as before.	
	Tincture of serpentry	f3j.
	Syrup so as to make	f3xij.

The dose three times a day, or twice as the patient convalesces ; or we may form it thus—

7. *Quinine and Serpentry.*

R	Dilute nitro-hydrochloric acid	.	.	f3j.
	Compound tincture of bark	.	.	f3ss.
	Infusion of serpentry	.	up to	f3x.

Two tablespoonfuls twice or three times a day.

8. *Dry Quinine for very young Children and Infants.*

R Quinine	.	.	.	.	.	.	.	gr.iiij.
White sugar	.	.	.	.	.	.	.	ʒj.

Rub together and divide into xij. powders. Dose, one powder three times a day to be laid on the tongue dry, and washed down at the breast or otherwise.

It is a convenient method for getting the quinine down in infants or young children. Of course if given to a child three or four years old the quinine must be proportionally increased.

9. *Sweetened Mixture for Children.*

R Quinine	.	.	.	.	.	.	.	ʒj.
Dilute sulphuric acid	.	.	.	.	.	.	.	℥vj.
Syrup of saffron	.	.	.	.	.	.	.	fʒvj.
Water	.	.	.	.	.	.	up to	fʒiiij.

A dessert-spoonful, or teaspoonful, or half a teaspoonful, three times a day, according to age and strength. Simple syrup or white sugar may be used if the syrup of saffron is not at hand.

10. *Buckbean or Menyanthes.*

R Dried leaves of the herb	.	.	.	.	.	.	.	ʒss.
Boiling water	.	.	.	.	.	.	.	Oj.

Let it stand on the hob for two hours and strain when cool.

Of this infusion fʒxv.

Dilute nitric acid fʒss.

Dilute hydrochloric acid fʒj.

Tincture of hop fʒiiiss.

Syrup of ginger fʒiiij.

DOSE :—Three tablespoonfuls twice or three times a day.

11. *Epsom salts and Buckbean.*

R Epsom salts	f5vj. or f3j.
Dilute sulphuric acid	f3j.
Syrup of ginger	f3 ss.
Infusion of buckbean	up to f3 xvj.

DOSE :—The same as No. 10, unless the action on the bowels is too severe.

12. *Arsenic, for Protracted and Obstinate Cases.*

R Fowler's solution	℥xxxvj.
Simple syrup	f3ij.
Decoction of bark, or infusion of buckbean or quassia,	up to f3 xij.

DOSE :—Two tablespoonfuls, *i.e.*, one-twelfth part three times a day.

This mixture must be taken about an hour after meals. The dose of the arsenical solution may be gradually increased from three minims to ten or twelve, but the formula must be discontinued as soon as the eyes are affected, and the larger doses must not be tried without medical advice.

I have a notion that in obstinate cases of quartan, and even in the other types, when chronic, the combination of arsenic and buckbean would prove very efficacious, the patient being duly prepared for the exhibition; but during my long residence in Sheppey I rarely met with a case positively requiring it, and for domestic management the remedy is too critical.

13. *Bark and Ammonia in Ague Cases complicated with Winter Cough or Chronic Bronchitis.*

R Carbonate of ammonia ʒj or 3ss.
 Compound tincture of bark f ʒ ss.
 Decoction of bark up to f ʒ viij.

Two tablespoonfuls every six or eight hours, and afterwards twice a day.

NOTE.—Instead of the carbonate of ammonia, f ʒ ss. or f ʒ j. of sal-volatile may be used.

Also in these bronchial cases complicated with ague, I have, in my own experience, found much good from *the combination of quinine, hemlock, and blue pill* to be taken at bed time, or in the night if the cough and phlegm are troublesome. Thus,—

14. R Quinine ʒj.
 Blue pill 3ss.
 Extract of hemlock 3j.

Make twenty-four pills and take two for a dose. If the liver is in good order the mercury can be omitted.

15. *Steel and Quinine for an Aquish Girl whose health is otherwise delicate.*

R Sulphate of iron (green vitriol) gr.xxiv.
 Sulphate of zinc (white vitriol) gr.xij.
 Sulphate of quinine ʒj.
 Sulphate of magnesia or soda (Epsom or Glauber salts) 3ss.
 Infusion of quassia up to f ʒ xvj.

DOSE :—Three tablespoonfuls twice or thrice a day. The salts may be omitted or not according to circumstances.

16. *Tincture of Steel and Quinine for the same kind of condition as the last.*

R Quinine	℥j.
Tincture of perchloride of iron	f5j.
Chloric ether	f3ij.
Syrup of saffron	f3ij.
Water, or infusion of quassia	up to f3x.

DOSE:—Two tablespoonfuls thrice, twice, or once a day. When taken only once a day, let it be in the forenoon about 10 or 11.

17. *Ammonia and Iron for Brow Ague.*

R Carbonate of ammonia	℥ij. to ℥iiss.
Sesquioxide of iron	℥v. to 3ij.

Make twelve powders. Take one three times a day, or even four times in twenty-four hours, and come down as the patient gets better to twice or once a day. Drop the powder into a wine glass of water, let it sink, stir up and toss it off. Keep the powder closely shut up from the air.

When this kind of neuralgia is very severe and persistent, a blister of Spanish fly may be applied behind the ear for six or eight hours, and followed up with a bread and water poultice.

If the bowels are costive the myrrh and aloes pill, or the compound decoction of aloes is a good adjuvant in connection with this medicine. And note that these remedies, or the compound galbanum pill, are excellent forms for a delicate girl who is taking quinine and steel.

Let it be remembered not to take strong tea immediately on quinine, and be sure to avoid carbonate of soda and other kinds of alkali while using bark and acid or the acidulated forms of iron.

18. The following is *a good form of liver pill*, especially while preparing the system for quinine:—

R Blue pill	ʒj.
Compound extract of colocynth	ʒj.
Powdered ipecacuanha	gr.iiij.
Watery extract of aloes	gr.x.
Oil of caraway	drops ʒj.

Make twenty pills ; two for a dose at bed time when needed.

Or thus, with Castile Soap.

19. R Blue pill	ʒij.
Watery extract of aloes	ʒss.
Castile soap	gr.vj.
Gum mastic	gr.iiij.
Oil of caraway (drops)	xij.

Make twenty-four pills ; dose as in No. 18.

20. *Quinine and Dandelion.*—When the liver is inactive, hardened, or enlarged, the following may be taken in connection with one or other of the last two formularies, or some similar mercurial pill:—

R Quinine	gr.xvj to ʒj.
Dilute sulphuric acid	f ʒj.
Fluid extract of taraxacum	f ʒij.
Compound tincture of gentian	f ʒj.
Infusion of hop	up to f ʒ xij.

DOSE:—Three tablespoonfuls twice or three times a day.

The *liquor taraxaci*, i.e., solution of dandelion, is rather of uncertain strength. I suppose as a general rule from one to two teaspoonfuls is the dose ; but the dose of the extract, according to the London Pharmacopœia, being from 4 grains to ʒj., we may easily make, say, O ss. of solution by rubbing up ʒij. or ʒj. of extract with that quantity of water, and so on in proportion.

21. When prescribing for my poor patients I often found *the following form of much use in liver cases* :—

R	Sulphate of potass	.	.	.	.	.	ʒ ss.
	Liquor of taraxacum	.	.	.	.	.	f ʒ iss.
	Tincture of hop	.	.	.	.	.	f ʒ ss.
	Water	.	.	.	.	up to	f ʒ xvj.

DOSE:—Three tablespoonfuls twice a day.

22. *A form for Alterative and Deobstruent Pills.*

R The compound calomel pill of the Pharmacopœia from gr. v., to gr. viij. or x., every night and morning, or only at bedtime, or every other night.

23. *Or Plummer's Pill*, which is nearly the same ; thus,—

R	Calomel	.	.	.	.	.	gr.x.
	Oxysulphuret of antimony	.	.	.	.	.	gr.x.
	Powdered guaiacum	.	.	.	.	.	ʒj.
	Confection of roses enough to make ten pills.						

Dose as in No. 22.

After a few of either of these pills containing mercury, castor oil should be taken early in the morning, or a Sedlitz powder in the forenoon.

24. And here is a *good prescription from Graham's Domestic Medicine* :—

R	Blue pill	.	.	.	.	.	.	℥j. or 3 ss.
	Tartar emetic	.	.	.	.	.	.	gr.ij.
	Extract of hemlock, or henbane	.	.	.	.	.	.	℥iiss.

Any warm syrup, enough to make twenty pills. One or two at bedtime, or one night and morning.

These pills, if made up with hemlock, act rather more on the bowels than if prepared with henbane.

25. Having mentioned *the usefulness of an emetic at the commencement of acute cases of ague* it may be well to say that a tablespoonful of mustard in a tumblerful of warm water will do, or better, if it can be had, the following :—

R	Sulphate of zinc	.	.	.	.	.	.	℥ss.
	Powdered ipecacuanha	.	.	.	.	.	.	℥ss.
	Simple syrup	.	.	.	.	.	.	f 3 ij.
	Water	.	.	.	.	.	.	f 3 iss.

After fifteen or twenty minutes, work it off with lukewarm water, or weak chamomile tea, in two or three draughts in quick succession, till everything is returned. Then let the patient rest for two or three hours before administering purgatives, to be followed in due course by quinine.

After the enumeration of so many medicines, let me close with a little advice to those who are too anxious to get well at once, and to those who are always taking physic :

Give nature time to right herself. Never take any medicine when you don't really want it, and leave it off the moment it has done its work. In chronic cases intermit the prescription now and then, and frequently the good effect of the remedy is not quite realised till a day or two after it has been omitted. Even a ship thrown upon her beam ends in a storm may get up again if you give her time.

Towards the close of the last century that gallant ship the Royal George, with 1,100 human beings on board, was lost at Spithead off Portsmouth one fine summer's day, because all the guns were placed to leeward in order to heel the ship over for some needful purpose. There came now and then an extra puff of wind, and the vessel dipped too much and took water in at her lower ports, which were all open. The officer of the watch got presently alarmed as the wind freshened and the dips were more frequent, and hastily ordered the men to rush over to the lee side and fetch back the guns to windward. The extra weight of some hundreds of men in addition to the extra guns to leeward threw the ship over still more, the sea rushed in at the open ports, and down she went in a trice !

All this dreadful mischief was done, and a thousand precious lives were lost through too much haste with

the remedy. Had the commanding officer on this terrible occasion fetched the guns back one by one, not being in such a hurry for the cure, and had he shut down the ports one after the other, slowly and surely, instead of allowing a furious rush, that magnificent ship would not have foundered at anchor and in port, nor would the very lives he intended to save have been so miserably lost!

Apply the moral to our medical treatment, "make haste slowly," and do not suppose you can recover health by violent measures and incessant remedies.





